

RE: Another Excel File for Discussion

Brattin, Bill to: Benson.Bob, Bateson.Thomas, Devoney.Danielle, Kopylev.Leonid

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RfC Team

In accord with our discussions today, I have performed two supplemental analyses of the Marysville IH data, as summarized below.

Analysis 1: Fitting of Trionize data by job to exponential model, allowing slope (b) to vary between jobs.

Results are shown in attached file ("Trionizing Dept by job IH Samples 08012012 fit to exponential by job.xlsx"), on the second tab.

Although fits are achieved for all jobs, the upsweep gets pretty severe in some cases, and there would be a substantial difference between the fixed b and the job-specific b approach.

My instinct tells me fixed b is better, but I am not sure I could defend that position.

What do others think ?

Analysis 2: Are some IH values lower than reasonably expected?

I evaluated this by calculating what I think might be a reasonable lower limit for the analytical sensitivity S:

$$S = EFA / (FOVs * Afov * Q * d * 1000)$$

where

EFA = effective filter area (mm²)

FOVs = number of field of views counted

Afov = area of one field of view (mm²)

Q = sampling pump floe rate (L/min)

D = sampling duration (min)

I made the following guesses:

EFA = 385

FOVs = 100

Afov = 0.00785

Q = 10

I then "flagged" suspicious values where the reported concentration was lower than the "expected" S.

The results are shown in the attached file ("Conc vs sampling duration.xlsx"), second tab.

As seen, if my guesses are reasonable, then the occurrence of "flagged" results is fairly low...about 1-2% of the values.

All of these are samples reported as detects, and none are "non-detects"

Moreover, the magnitude of the difference between the "expected" and reported values is relatively small – an average of about 2 fold.

So, based on this, I conclude that even though some values do appear to be suspiciously low, they are sufficiently infrequent, and the difference is sufficiently small, that this is not likely to be a major cause for concern.

Opinions?

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[Trionizing Dept by job IH samples 08012012 fit to exponential by job.xlsx](#)



[Conc vs sampling duration.xlsx](#)